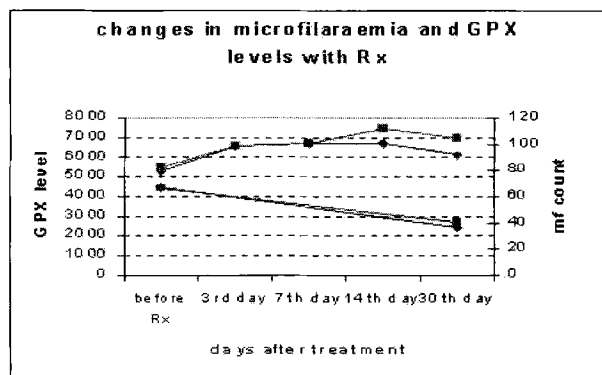


**Background:** Single dose and 14 day treatments with DEC have been found to have similar microfilaria clearance rates. Although the microfilaricidal action of DEC is not clearly understood, stimulation of platelets by the drug to release free radicals, especially those related to GPX, seem to play a role.

**Aim:** To study the clearance of microfilaraemia and changes in red cell GPX levels in asymptomatic microfilaraemics after single dose and 14 day treatment with DEC.

**Methods:** 22 asymptomatic microfilaraemics were block randomized to receive either a single dose (300 mg), [ $n = 11$  (5 males), mean age 34 years (range 15–59)] or 14 days treatment (total of 4.2 g) [ $n = 11$  (6 males) mean age 29.8 years (range 16–57)] with DEC. Baseline and one month post treatment microfilaraemia was assessed by Nuclepore<sup>®</sup> membrane filtration using 1 mL of heparinized venous blood obtained between 9 and 11 pm. Red blood cell GPX levels were analysed using spectrophotometry before and on the 3rd, 7th, 14th and 30th days after commencement of treatment using 2 mL of venous blood collected into an EDTA bottle between 8 and 9 am on each day. Assays were done within 6 h of blood collection. Blood was stored at 80°C until analysis.

**Results:**



A gradual and significant increase in GPX levels was observed up to day 14 in both treatment groups (day 3, 7, 4  $P < 0.01$ ) and the started to decrease.

There was no significant difference in reduction of *mf* counts ( $P = 0.31$ ) or in GPX levels on day 14 ( $P = 0.12$ ) and day 30 ( $P = 0.06$ ) between the two treatment groups.

**Conclusions:** The 14 day course does not offer a significant advantage over a single dose of DEC in reducing microfilarial counts and inducing the participation of GPX related free radicals in microfilarial clearance.

### P1608 Red blood cell antioxidant levels after treatment with diethyl carbamazine citrate in persons with asymptomatic microfilaraemia

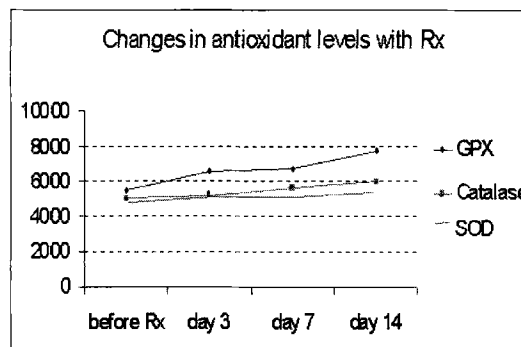
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Ragama, CL

**Background:** The microfilaricidal action of DEC is poorly understood. *In vitro* studies have shown that, DEC stimulates platelets to release unspecified free radicals, which have microfilaricidal effects. In asymptomatic microfilaraemics living in endemic areas, red cell glutathione peroxidase (GPX) levels are significantly higher than in asymptomatic microfilaraemics. Catalase and superoxide dismutase (SOD) levels between these two populations are not different. This suggests a possible role for GPX related free radical species in the clearance of microfilaraemia.

**Aim:** To study, *in vivo*, the changes in red cell GPX, catalase and SOD in asymptomatic microfilaraemic patients after treatment with DEC.

**Methods:** Ten patients [(6 males), mean age: 29.8 years (range 16–57)] with asymptomatic microfilaraemia were tested for red cell GPX, catalase and SOD levels using spectrophotometry before and on the 3rd, 7th and 14th day during a 14-day course of DEC. 2 mL of venous blood was collected into an EDTA bottle between 8.00 and 9.00 am on each day. Assays were done within 6 h of collection. Blood was stored at 8°C until analysis.

**Results:**



A gradual and significant increase in GPX levels was observed up to the 14th day of treatment. (day 3, 7 and 14  $P < 0.01$ ). A slower and nonsignificant increase in catalase and SOD were also observed during treatment up to day 7. ( $P > 0.05$ ) and on day 14 the catalase level was significantly different ( $P < 0.01$ ).

**Conclusions:** The early and significant rise of GPX levels suggest a rapid increase in GPX related oxidant species in blood in response to DEC treatment. The late rise in SOD and catalase levels could be due to stimulation of immunological pathways by dead parasite antigens, as these two antioxidants are known to participate in the IgE mediated immunological pathway of the host parasite relationship.

## CNS viral infections

### P1609 An outbreak of aseptic meningitis in Vojvodina

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**Aim of the study:** To investigate frequency and clinical manifestations of aseptic meningitis (AM) during the outbreak in Vojvodina, from the end of July till the end of October 2000.

**Material and methods:** 201 patients with signs of acute viral CNS infections treated at the Clinic for Infectious Diseases in Novi Sad were enrolled in the study. Data were collected from medical records of hospitalized patients. Diagnosis of AM was based on cyto-biochemical characteristics and negative bacterial culture of CSF, epidemiological data and typical course of the disease. Aetiological diagnosis was confirmed only in one patient, in whom rectal swab was negative, by isolation of enterovirus ECHO 30 from the culture of CSF. As the outbreak of AM occurred in late summer and the course of disease was mild, it was presumed that entero/ECHO viruses accounted for most of the cases.

**Results:** Among 201 patients with acute viral infection of CNS, 193 were diagnosed as AM and 8 as acute meningoencephalitis. The patients were from 2 to 54 years old. Majority of them were less than 15 years of age (156 or 82.3%), with the highest attack rates in children aged 4 and 12, respectively. The male to female ratio was 1.5:1. Monophasic course of AM was predominant (161 patients or 83, 42%), though 16, 58% (32) had biphasic course of disease. CSF cell count ranged from 10 to 2960/mm<sup>3</sup> and in most cases (123 or 63, 40%) was 10–500/mm<sup>3</sup>. Predominance of granulocytes in CSF was noted in 99 patients (51.30%) and ranged between 50–90%; protein concentration level in CSF was higher than 0.50–2.8 g/L in 41 patients (21.24%). CSF/blood glucose ratio ranged between 0.36 and 0.48 mmol/L in 19 patients (9.84%). Leukocytosis in peripheral blood was found in 37.31% (72) patients, and ranged from 10.2 to 34.0 × 10<sup>9</sup>. Neutrophilic granulocytosis in WBC was registered in 95.83% of patients on admission to the hospital but 24 h later, leukocytosis was found only in 5.70% (11) of them. ESR higher than 20/50 was found in 41.45% (80) of patients. Milder form of meningoencephalitis was registered in 8 cases. Mild hemiparesis as a complication was noted in 2.49% (5) cases. It occurred at the end of hospitalization or during convalescence period. The outcome of disease was favourable in all patients.